

The Hawaii-based Longline Logbook Summary Report January–March 2008¹

Pacific Islands Fisheries Science Center
Fisheries Monitoring and Analysis Program

This report summarizes data on fish catch and fishing effort of Hawaii-based longline vessels during the first quarter of 2008 (Q1-2008), based on the date gear was hauled, as reported to the National Marine Fisheries Service in Federal logbooks of daily fishing activity submitted by vessel operators. The report covers longline operations for fishing trips completed in the first quarter of 2008 and most, but not all, Q1-2008 data from trips that began late in the first quarter and continued into the second quarter of 2008. Therefore, the Q1-2008 summary statistics reported here are preliminary. When data for all first quarter longline operations are available, tables and graphs of summary statistics will be updated and published in the online version of this report at <http://www.pifsc.noaa.gov/fmsd/reports.php>.

During Q1-2008, 127 vessels were active in the Hawaii-based fleet, 6 more than in the Q1-2007 (Table 1, Fig. 1). They made 439 longline trips (14 more than in Q1-2007), including 394 using deep-set gear to target tuna (27 more than in Q1-2007) and 45 using shallow-set gear to target swordfish (13 less than in Q1 2007; Fig. 2). A record 10.2 million hooks were deployed in Q1-2008, 1.3 million more than in Q1-2007 (Fig. 3). The fleet fished mainly outside the U.S. Exclusive Economic Zone (EEZ) (48% of the total hooks set), followed by the EEZ of the Main Hawaiian Islands (MHI) (32%) and waters within the EEZ of the Northwestern Hawaiian Islands (NWHI) (9%). Seven percent of the hooks were deployed in the EEZ of the U.S. Pacific Remote Island Areas (PRIA, consisting of the U.S. possessions Wake Island, Jarvis Island, Howland Island, Baker Island, Kingman Reef, Palmyra Atoll, and Johnston Atoll).

In Q1-2008, the Hawaii longline fleet caught a record 45,239 bigeye tuna (Fig. 4); 51% were caught outside the U.S. EEZ, 31% in the MHI EEZ, 9% in the NWHI EEZ, and 8% in the PRIA EEZ. The bigeye tuna catch-per-unit-of-effort (CPUE) on tuna-targeted trips was 4.7 fish per 1000 hooks; exceeding the Q1-2007 CPUE of 3.9 (Fig. 5). The albacore catch and CPUE on tuna-targeted trips in Q1-2008 were 7,623 fish and 0.65 fish per 1000 hooks, respectively (Figs. 6-7). The yellowfin tuna catch (19,039 fish) in Q1-2008 established a first quarter record and the yellowfin CPUE on tuna-targeted trips (2.0 fish per 1000 hooks) was higher than average for the quarter (Figs. 8-9).

The Q1-2008 swordfish catch was 11,022 fish, 20% lower than in Q1-2007 (Fig. 10). The smaller swordfish catch is attributed mostly to fewer shallow

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sets made this year. In Q1-2008, swordfish CPUE on shallow-set swordfish-targeted trips was 15.2 fish per 1000 hooks, 0.8 lower than in Q1-2007 (Fig. 11).

The Q1-2008 striped marlin catch (2,301 fish) and CPUE on tuna-targeted trips (0.23 fish per 1000 hooks) were lower than in Q1-2007 by 30% and 43%, respectively (Figs. 12-13). Conversely, the Q1-2008 blue marlin catch (810 fish) and CPUE on tuna-targeted trips (0.08 fish per 1000 hooks) were higher than in Q1-2007 by 45% and 14% (Figs. 14-15).

The fleet caught 18,809 sharks in Q1-2008, of which 572 (3%) were kept. Blue shark comprised 82% of the total shark catch (15,467 fish) (Fig. 16). Blue shark CPUE on shallow-set swordfish-targeted trips was 10.1 fish per 1000 hooks (Fig. 17).

In Q1-2008, the Hawaii longline catch of other key pelagic species included 25,931 mahimahi (Fig. 18) with a CPUE of 2.6 fish per 1000 hooks on tuna-targeted trips (Fig. 19); 1,726 moonfish (Fig. 20) with a CPUE of 0.18 fish per 1000 hooks on tuna-targeted trips (Fig. 21); 10,993 pomfret (Fig. 22) with a CPUE of 1.2 fish per 1000 hooks on tuna-targeted trips (Fig. 23); and 3,246 wahoo (Fig. 24) with a CPUE of 0.34 fish per 1000 hooks on tuna-targeted trips (Fig. 25). A high percentage of the catch of these species was kept.

The summary statistics in Table 1 are based on logbook records from all fishing areas combined and all types of longline trips—those targeting swordfish and those aimed at catching tuna. Hence, the CPUE figures in Table 1 differ from those reported above, which were calculated using data exclusively from tuna-targeted trips or swordfish-targeted trips, depending on the species of interest.

In addition to longline statistics for all fishing areas combined, Q1-2008 summary catch and effort were compiled by several geographical sub-areas including: the MHI EEZ; the NWHI EEZ; the PRIA EEZ; the combined EEZ of MHI, NWHI and PRIA; and waters outside the U.S. EEZ. These statistics are presented in Tables 2-6. Q1-2008 summary statistics for the entire fishing area are also presented for each distinct trip type: shallow-set swordfish-targeted trips (Table 7) and deep-set tuna-targeted trips (Table 8).

In addition to the summary longline fishery statistics for Q1-2008, graphs of annual Hawaii longline fishing effort and catch by species for the years 1991-2007 are presented in Figs. A1-A7.

All tables and graphs provided in this report are available on the PIFSC Web site at <http://www.pifsc.noaa.gov/fmsd/reports.php>. The Web site also has an archive of quarterly and annual summary tables of fish catch and fishing effort from 1991 to present. The statistics in the online graphs and archived tables are updated periodically as new records are added to the database and corrections are made.

Table 1. Quarterly summary report of fish catch statistics for U.S. longline vessels landing in Hawaii as derived for NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 5/29/2008 3:30:31PM]

Report Coverage		Number of vessels active	127
Time Period	1st Quarter 2008	Number of trips	439
Fishing Area	All Areas	Number of sets	5,023
Trip Types	All Trip Types	Number of hooks set	10,164,401

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	810	802	8	0.08
Striped marlin	2,301	2,277	24	0.23
Shortbill spearfish	7,227	7,176	51	0.71
Swordfish	11,022	10,116	906	1.08
Other billfishes	102	100	2	0.01
Total	21,462	20,471	991	2.11
Sharks				
Blue shark	15,467	47	15,420	1.52
Mako sharks	1,039	340	699	0.10
Thresher sharks	1,699	153	1,546	0.17
Oceanic whitetip shark	407	17	390	0.04
Silky shark	49	1	48	0.00
Other sharks	148	14	134	0.01
Total	18,809	572	18,237	1.85
Tunas				
Albacore	7,623	7,065	558	0.75
Bigeye tuna	45,239	43,886	1,353	4.45
Yellowfin	19,039	17,639	1,400	1.87
Bluefin tuna	1	1		0.00
Skipjack tuna	8,858	7,780	1,078	0.87
Other tunas	4	3	1	0.00
Total	80,764	76,374	4,390	7.95
Other PMUS				
Mahimahi	25,931	25,385	546	2.55
Moonfish	1,726	1,720	6	0.17
Wahoo	3,246	3,230	16	0.32
Oilfish	8,340	8,090	250	0.82
Pomfret	10,993	10,948	45	1.08
Total	50,236	49,373	863	4.94
Total PMUS	171,271	146,790	24,481	16.85
Total Non-PMUS	1,136	402	734	0.11
Total All Species	172,407	147,192	25,215	16.96

Table 2. Quarterly summary report of fish catch statistics for U.S. longline vessels landing in Hawaii as derived for NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 5/29/2008 3:36:36PM]

Report Coverage

Time Period 1st Quarter 2008
 Fishing Area Main Hawaiian Islands EEZ
 Trip Types All Trip Types

Number of vessels active	98
Number of trips	242
Number of sets	1,474
Number of hooks set	3,242,031

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	115	114	1	0.04
Striped marlin	908	906	2	0.28
Shortbill spearfish	2,592	2,586	6	0.80
Swordfish	91	85	6	0.03
Other billfishes	30	30		0.01
Total	3,736	3,721	15	1.15
Sharks				
Blue shark	2,546	8	2,538	0.79
Mako sharks	256	156	100	0.08
Thresher sharks	405	81	324	0.12
Oceanic whitetip shark	46	6	40	0.01
Other sharks	18	5	13	0.01
Total	3,271	256	3,015	1.01
Tunas				
Albacore	677	676	1	0.21
Bigeye tuna	13,980	13,370	610	4.31
Yellowfin	7,861	7,087	774	2.42
Bluefin tuna	1	1		0.00
Skipjack tuna	2,962	2,627	335	0.91
Total	25,481	23,761	1,720	7.86
Other PMUS				
Mahimahi	7,542	7,394	148	2.33
Moonfish	591	590	1	0.18
Wahoo	465	460	5	0.14
Oilfish	2,868	2,835	33	0.88
Pomfret	2,260	2,253	7	0.70
Total	13,726	13,532	194	4.23
Total PMUS	46,214	41,270	4,944	14.25
Total Non-PMUS	599	249	350	0.18
Total All Species	46,813	41,519	5,294	14.44

Table 3. Quarterly summary report of fish catch statistics for U.S. longline vessels landing in Hawaii as derived for NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 5/29/2008 3:42:43PM]

Report Coverage		Number of vessels active	59
Time Period	1st Quarter 2008	Number of trips	85
Fishing Area	Northwestern Hawaiian Islands EEZ	Number of sets	432
Trip Types	All Trip Types	Number of hooks set	953,242

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	43	43		0.05
Striped marlin	290	287	3	0.30
Shortbill spearfish	799	792	7	0.84
Swordfish	48	32	16	0.05
Other billfishes	9	9		0.01
Total	1,189	1,163	26	1.25
Sharks				
Blue shark	1,497	1	1,496	1.57
Mako sharks	82	48	34	0.09
Thresher sharks	58	4	54	0.06
Oceanic whitetip shark	17	2	15	0.02
Silky shark	1		1	0.00
Other sharks	22	2	20	0.02
Total	1,677	57	1,620	1.76
Tunas				
Albacore	477	477		0.50
Bigeye tuna	4,157	4,065	92	4.36
Yellowfin	4,981	4,673	308	5.23
Skipjack tuna	975	909	66	1.02
Total	10,590	10,124	466	11.11
Other PMUS				
Mahimahi	3,106	3,047	59	3.26
Moonfish	191	190	1	0.20
Wahoo	142	141	1	0.15
Oilfish	1,021	1,015	6	1.07
Pomfret	583	582	1	0.61
Total	5,043	4,975	68	5.29
Total PMUS	18,499	16,319	2,180	19.41
Total Non-PMUS	38	29	9	0.04
Total All Species	18,537	16,348	2,189	19.45

Table 4. Quarterly summary report of fish catch statistics for U.S. longline vessels landing in Hawaii as derived for NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 5/29/2008 3:48:44PM]

Report Coverage

Time Period 1st Quarter 2008
 Fishing Area Pacific Remote Island Areas (PRIA) EEZ
 Trip Types All Trip Types

Number of vessels active	40
Number of trips	49
Number of sets	303
Number of hooks set	703,098

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	154	152	2	0.22
Striped marlin	144	142	2	0.20
Shortbill spearfish	351	349	2	0.50
Swordfish	61	58	3	0.09
Other billfishes	15	15		0.02
Total	725	716	9	1.03
Sharks				
Blue shark	931	5	926	1.32
Mako sharks	33	15	18	0.05
Thresher sharks	147	7	140	0.21
Oceanic whitetip shark	270	2	268	0.38
Silky shark	45		45	0.06
Other sharks	14		14	0.02
Total	1,440	29	1,411	2.05
Tunas				
Albacore	1,607	1,605	2	2.29
Bigeye tuna	3,829	3,719	110	5.45
Yellowfin	1,221	1,178	43	1.74
Skipjack tuna	838	789	49	1.19
Other tunas	1	1		0.00
Total	7,496	7,292	204	10.66
Other PMUS				
Mahimahi	1,302	1,290	12	1.85
Moonfish	74	74		0.11
Wahoo	632	629	3	0.90
Oilfish	443	441	2	0.63
Pomfret	602	598	4	0.86
Total	3,053	3,032	21	4.34
Total PMUS	12,714	11,069	1,645	18.08
Total Non-PMUS	11	7	4	0.02
Total All Species	12,725	11,076	1,649	18.10

Table 5. Quarterly summary report of fish catch statistics for U.S. longline vessels landing in Hawaii as derived for NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 5/29/2008 3:54:51PM]

Report Coverage

Time Period 1st Quarter 2008
 Fishing Area Hawaiian Islands EEZ + PRIA EEZ
 Trip Types All Trip Types

Number of vessels active	107
Number of trips	311
Number of sets	2,209
Number of hooks set	4,898,371

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	312	309	3	0.06
Striped marlin	1,342	1,335	7	0.27
Shortbill spearfish	3,742	3,727	15	0.76
Swordfish	200	175	25	0.04
Other billfishes	54	54		0.01
Total	5,650	5,600	50	1.15
Sharks				
Blue shark	4,974	14	4,960	1.02
Mako sharks	371	219	152	0.08
Thresher sharks	610	92	518	0.12
Oceanic whitetip shark	333	10	323	0.07
Silky shark	46		46	0.01
Other sharks	54	7	47	0.01
Total	6,388	342	6,046	1.30
Tunas				
Albacore	2,761	2,758	3	0.56
Bigeye tuna	21,966	21,154	812	4.48
Yellowfin	14,063	12,938	1,125	2.87
Bluefin tuna	1	1		0.00
Skipjack tuna	4,775	4,325	450	0.97
Other tunas	1	1		0.00
Total	43,567	41,177	2,390	8.89
Other PMUS				
Mahimahi	11,950	11,731	219	2.44
Moonfish	856	854	2	0.17
Wahoo	1,239	1,230	9	0.25
Oilfish	4,332	4,291	41	0.88
Pomfret	3,445	3,433	12	0.70
Total	21,822	21,539	283	4.45
Total PMUS	77,427	68,658	8,769	15.81
Total Non-PMUS	648	285	363	0.13
Total All Species	78,075	68,943	9,132	15.94

Table 6. Quarterly summary report of fish catch statistics for U.S. longline vessels landing in Hawaii as derived for NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 5/29/2008 4:01:02PM]

Report Coverage

Time Period 1st Quarter 2008
 Fishing Area Outside U.S. EEZ
 Trip Types All Trip Types

Number of vessels active	122
Number of trips	325
Number of sets	2,814
Number of hooks set	5,266,030

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	498	493	5	0.09
Striped marlin	959	942	17	0.18
Shortbill spearfish	3,485	3,449	36	0.66
Swordfish	10,822	9,941	881	2.06
Other billfishes	48	46	2	0.01
Total	15,812	14,871	941	3.00
Sharks				
Blue shark	10,493	33	10,460	1.99
Mako sharks	668	121	547	0.13
Thresher sharks	1,089	61	1,028	0.21
Oceanic whitetip shark	74	7	67	0.01
Silky shark	3	1	2	0.00
Other sharks	94	7	87	0.02
Total	12,421	230	12,191	2.36
Tunas				
Albacore	4,862	4,307	555	0.92
Bigeye tuna	23,273	22,732	541	4.42
Yellowfin	4,976	4,701	275	0.94
Skipjack tuna	4,083	3,455	628	0.78
Other tunas	3	2	1	0.00
Total	37,197	35,197	2,000	7.06
Other PMUS				
Mahimahi	13,981	13,654	327	2.65
Moonfish	870	866	4	0.17
Wahoo	2,007	2,000	7	0.38
Oilfish	4,008	3,799	209	0.76
Pomfret	7,548	7,515	33	1.43
Total	28,414	27,834	580	5.40
Total PMUS	93,844	78,132	15,712	17.82
Total Non-PMUS	488	117	371	0.09
Total All Species	94,332	78,249	16,083	17.91

Table 7. Quarterly summary report of fish catch statistics for U.S. longline vessels landing in Hawaii as derived for NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 5/29/2008 4:07:11PM]

Report Coverage

Time Period 1st Quarter 2008
 Fishing Area All Areas
 Trip Types Swordfish Targeted Trips

Number of vessels active	24
Number of trips	45
Number of sets	744
Number of hooks set	690,413

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	15	12	3	0.02
Striped marlin	121	112	9	0.18
Shortbill spearfish	47	46	1	0.07
Swordfish	10,522	9,681	841	15.24
Other billfishes	22	21	1	0.03
Total	10,727	9,872	855	15.54
Sharks				
Blue shark	6,941	11	6,930	10.05
Mako sharks	444	27	417	0.64
Thresher sharks	111	3	108	0.16
Other sharks	5		5	0.01
Total	7,501	41	7,460	10.86
Tunas				
Albacore	1,467	918	549	2.12
Bigeye tuna	712	634	78	1.03
Yellowfin	131	108	23	0.19
Skipjack tuna	75	57	18	0.11
Other tunas	1		1	0.00
Total	2,386	1,717	669	3.46
Other PMUS				
Mahimahi	1,121	968	153	1.62
Moonfish	16	14	2	0.02
Wahoo	20	20		0.03
Oilfish	643	450	193	0.93
Pomfret	44	36	8	0.06
Total	1,844	1,488	356	2.67
Total PMUS	22,458	13,118	9,340	32.53
Total Non-PMUS	5	3	2	0.01
Total All Species	22,463	13,121	9,342	32.54

Table 8. Quarterly summary report of fish catch statistics for U.S. longline vessels landing in Hawaii as derived for NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 5/29/2008 4:13:41PM]

Report Coverage

Time Period 1st Quarter 2008
 Fishing Area All Areas
 Trip Types Tuna Targeted Trips

Number of vessels active	113
Number of trips	394
Number of sets	4,279
Number of hooks set	9,473,988

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	795	790	5	0.08
Striped marlin	2,180	2,165	15	0.23
Shortbill spearfish	7,180	7,130	50	0.76
Swordfish	500	435	65	0.05
Other billfishes	80	79	1	0.01
Total	10,735	10,599	136	1.13
Sharks				
Blue shark	8,526	36	8,490	0.90
Mako sharks	595	313	282	0.06
Thresher sharks	1,588	150	1,438	0.17
Oceanic whitetip shark	407	17	390	0.04
Silky shark	49	1	48	0.01
Other sharks	143	14	129	0.02
Total	11,308	531	10,777	1.19
Tunas				
Albacore	6,156	6,147	9	0.65
Bigeye tuna	44,527	43,252	1,275	4.70
Yellowfin	18,908	17,531	1,377	2.00
Bluefin tuna	1	1		0.00
Skipjack tuna	8,783	7,723	1,060	0.93
Other tunas	3	3		0.00
Total	78,378	74,657	3,721	8.27
Other PMUS				
Mahimahi	24,810	24,417	393	2.62
Moonfish	1,710	1,706	4	0.18
Wahoo	3,226	3,210	16	0.34
Oilfish	7,697	7,640	57	0.81
Pomfret	10,949	10,912	37	1.16
Total	48,392	47,885	507	5.11
Total PMUS	148,813	133,672	15,141	15.71
Total Non-PMUS	1,131	399	732	0.12
Total All Species	149,944	134,071	15,873	15.83

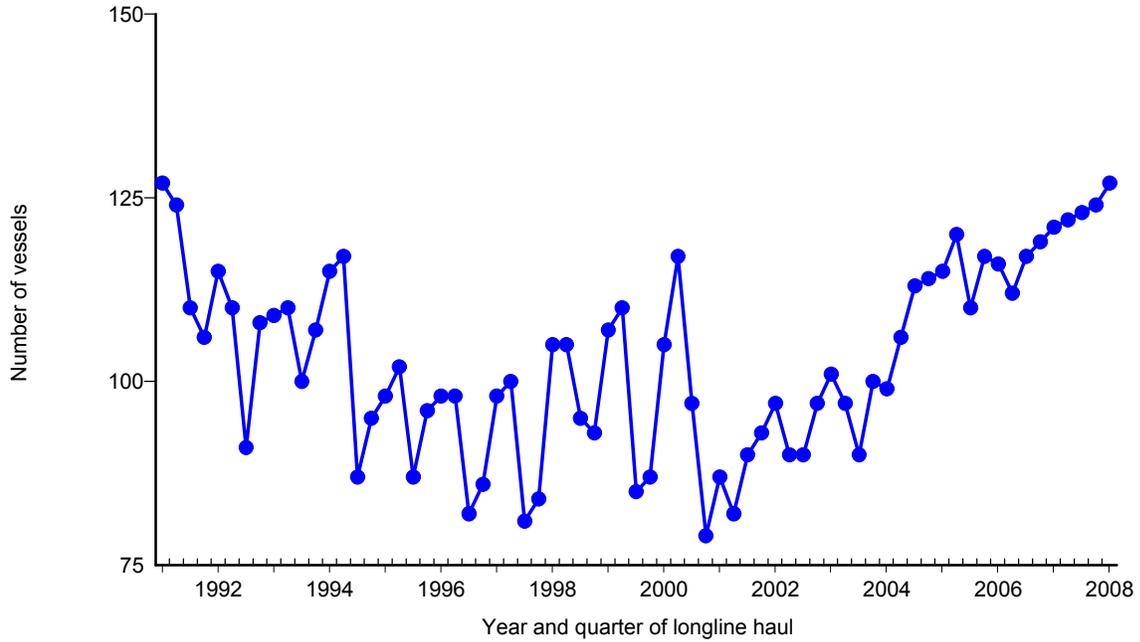


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:36:22AM]

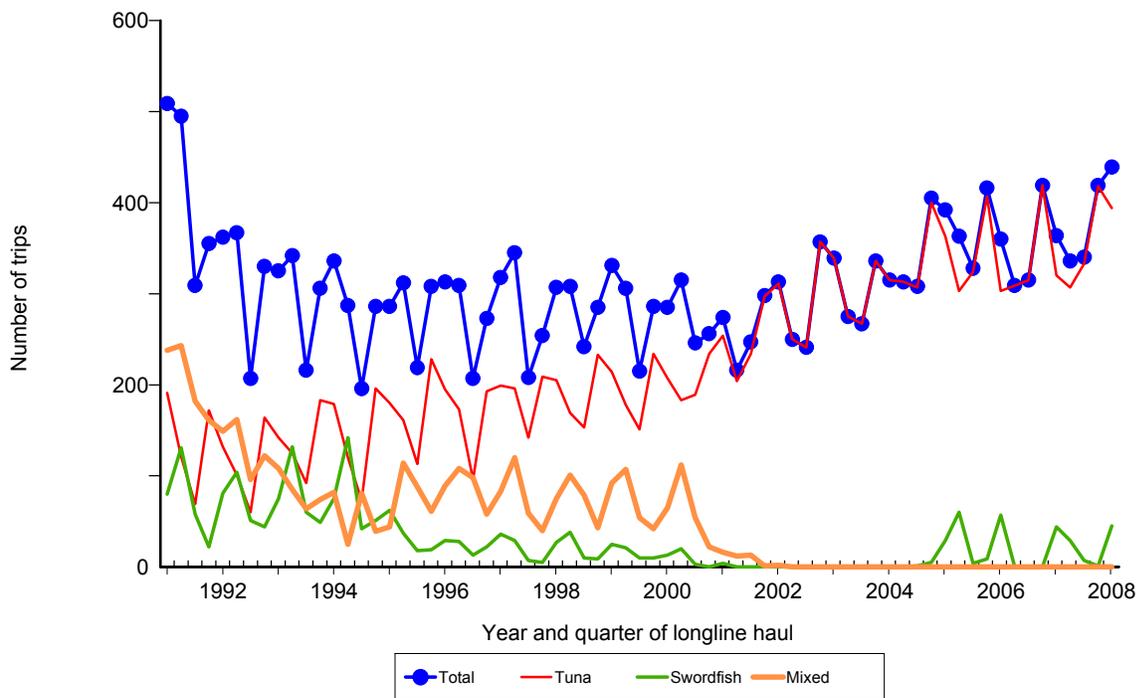


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:36:22AM]

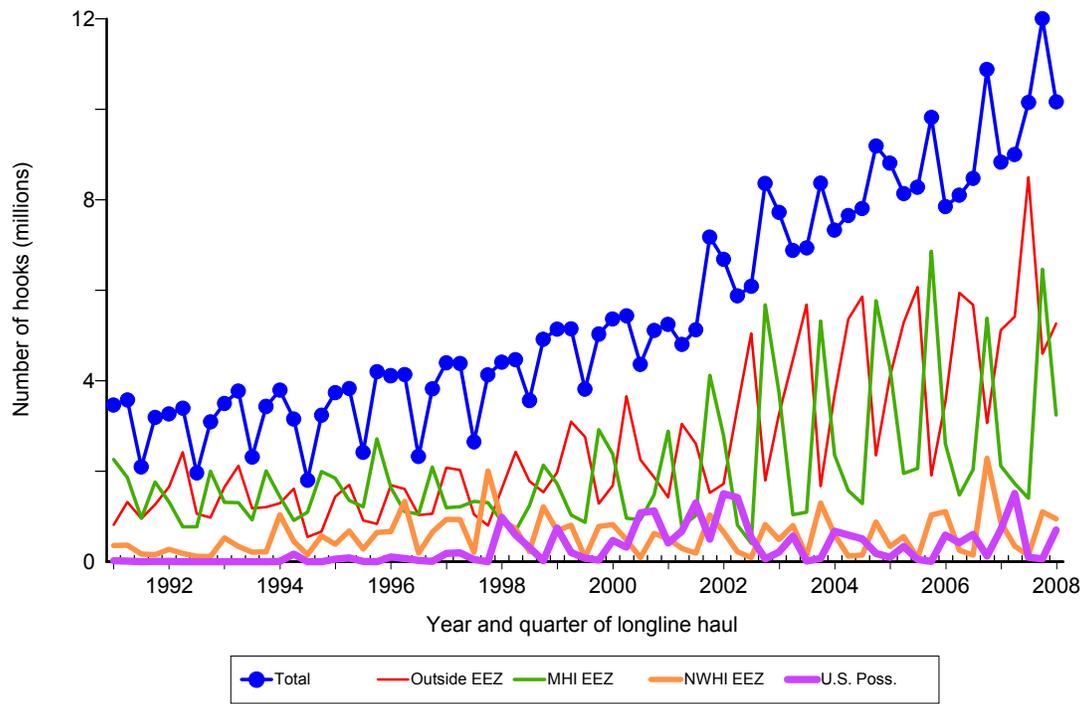


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:36:34AM]

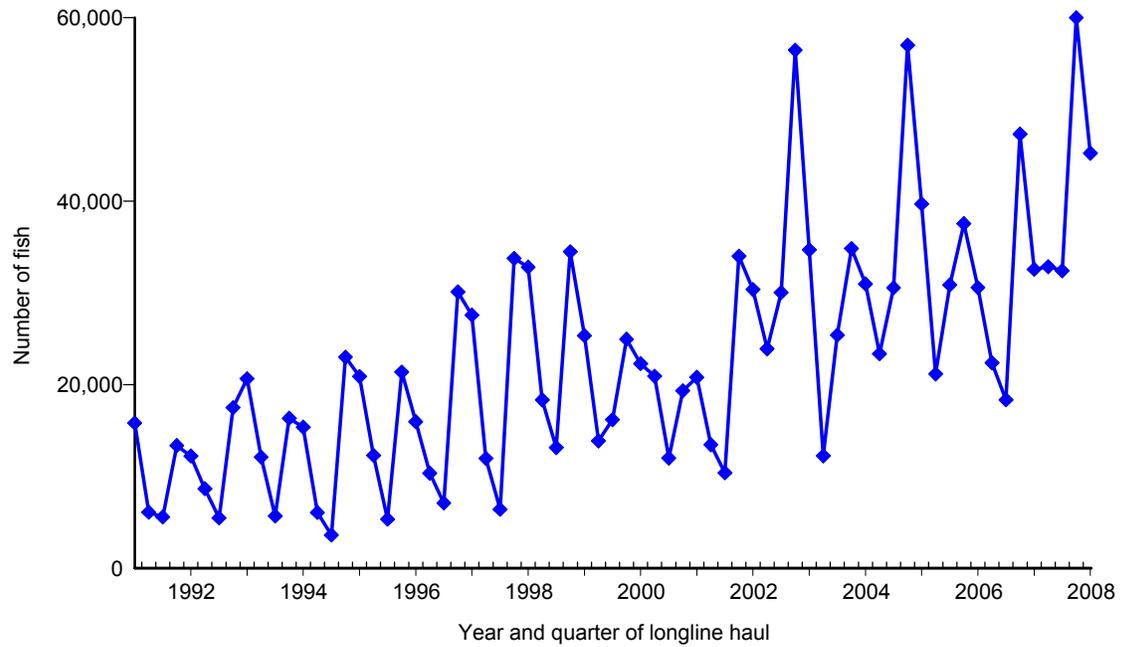


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:37:16AM]

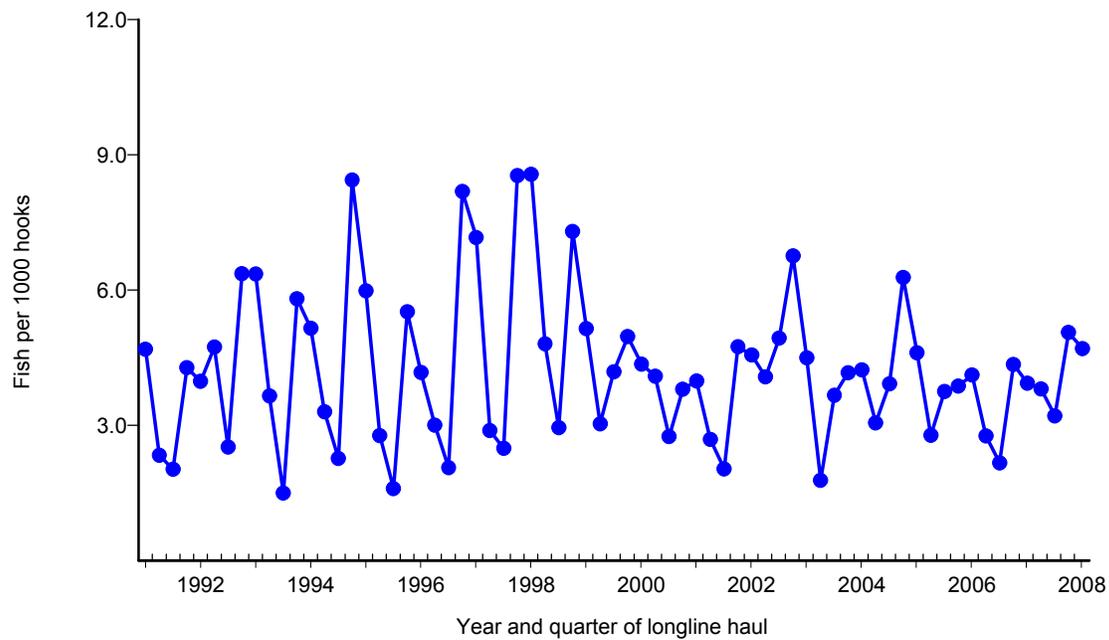


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:37:16AM]

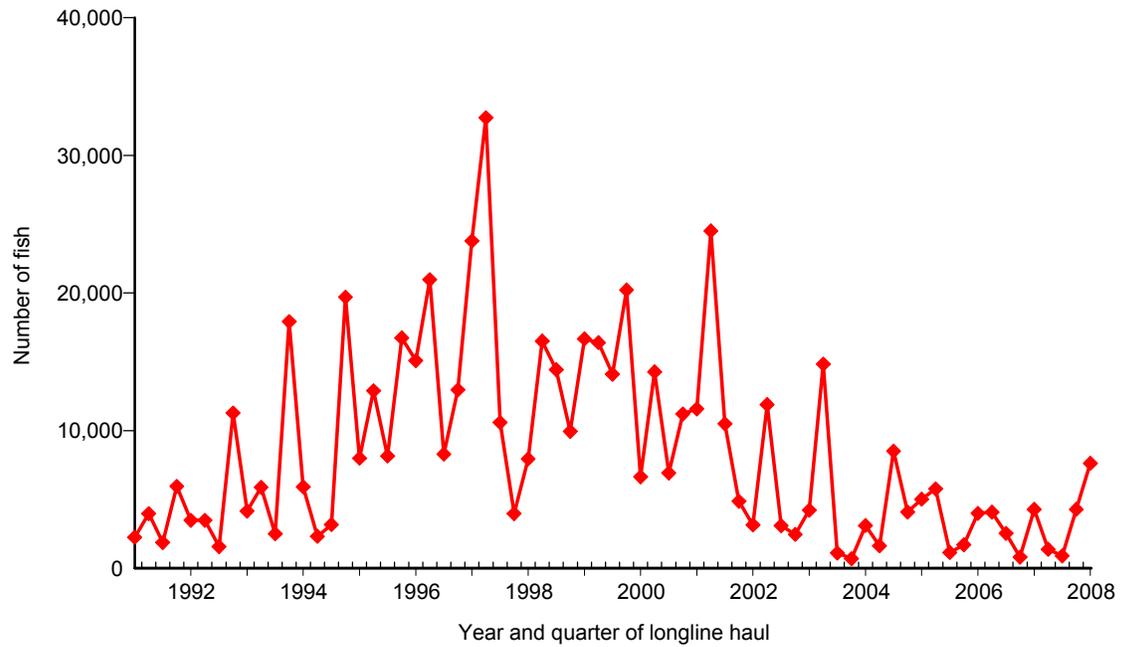


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:37:48AM]

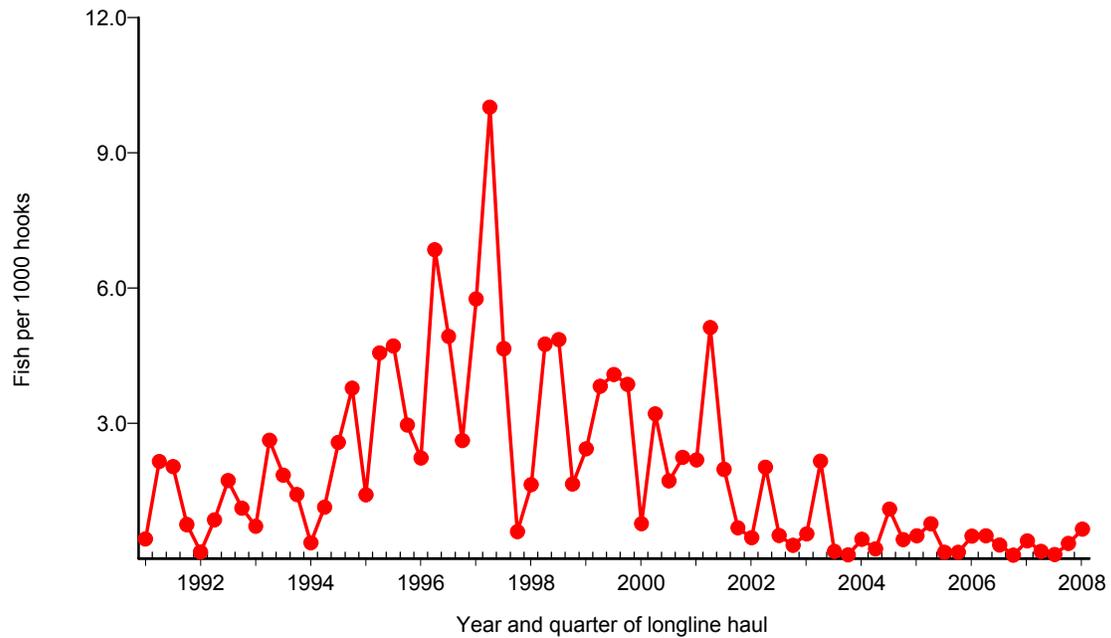


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:37:48AM]

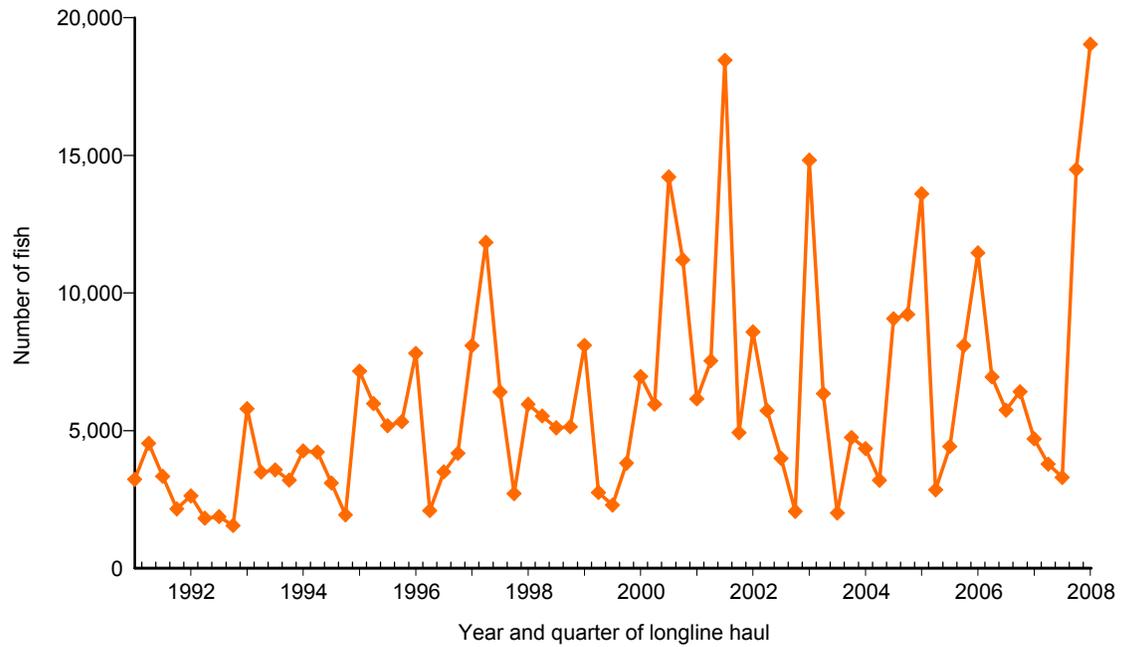


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:38:27AM]

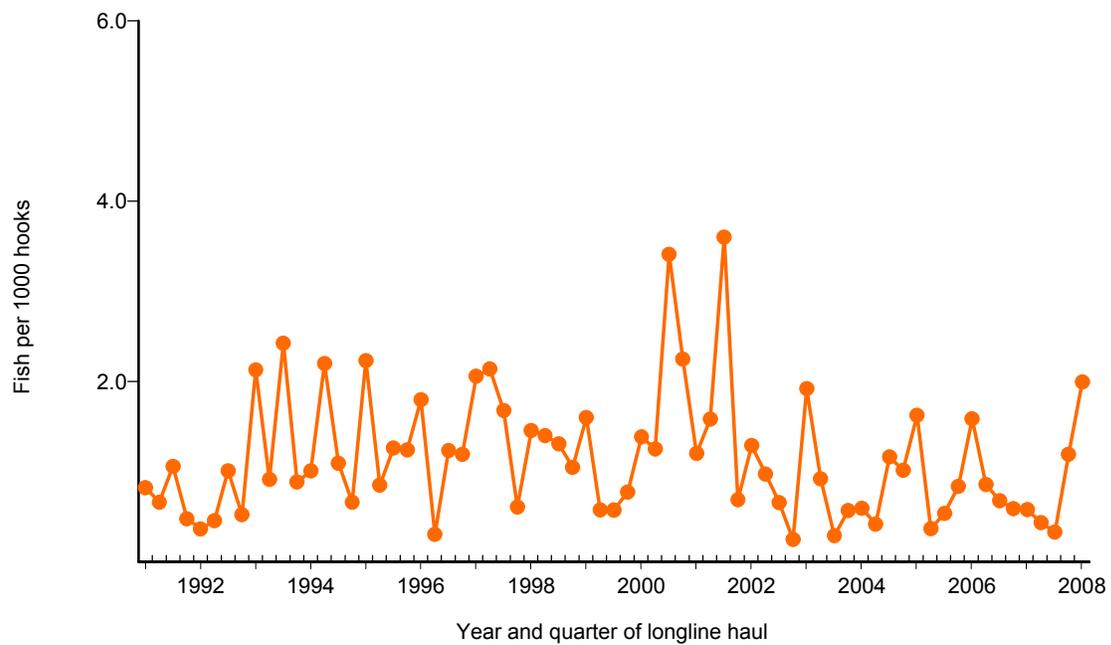


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:38:27AM]

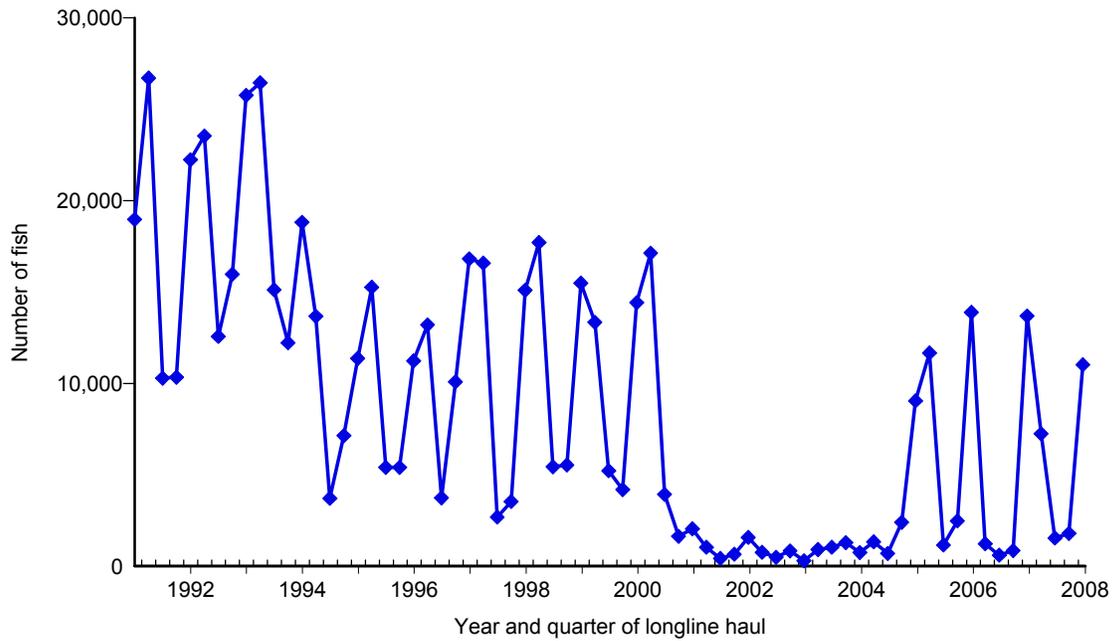


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:39:06AM]

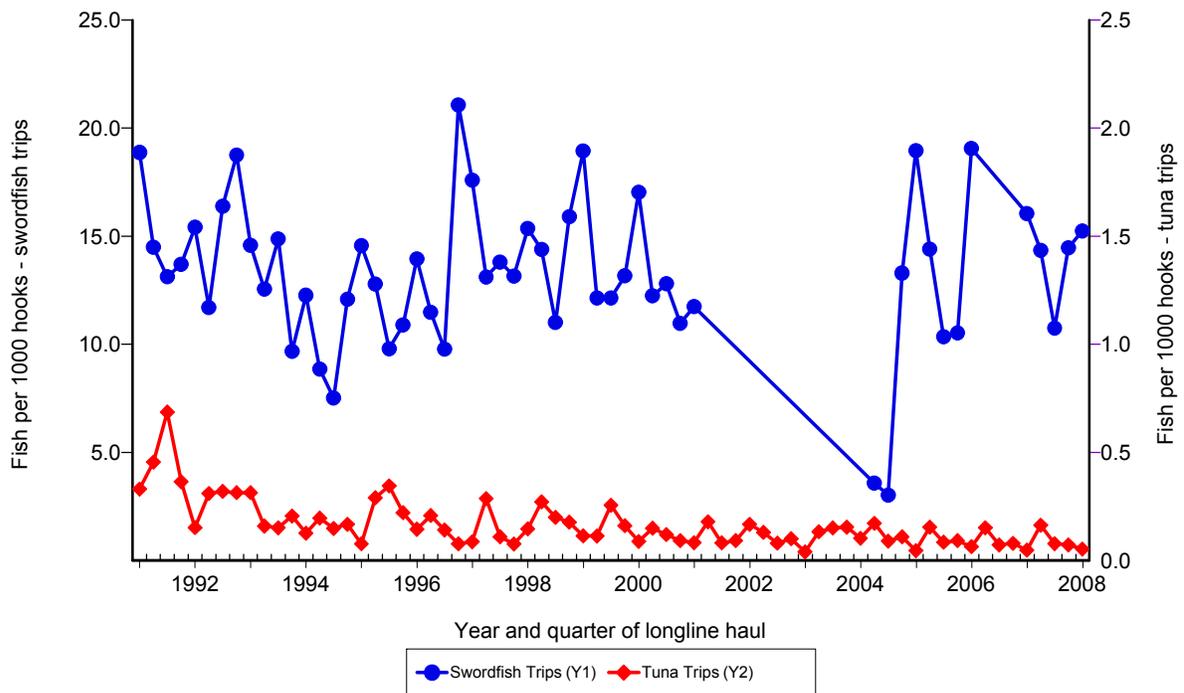


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:39:06AM]

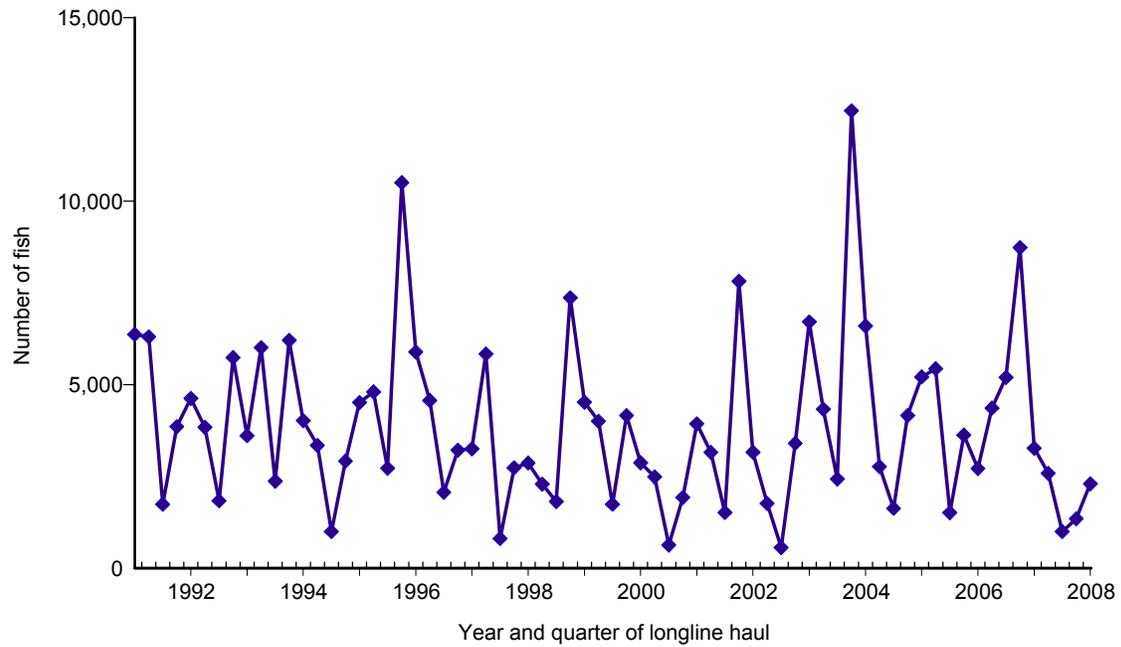


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:39:46AM]

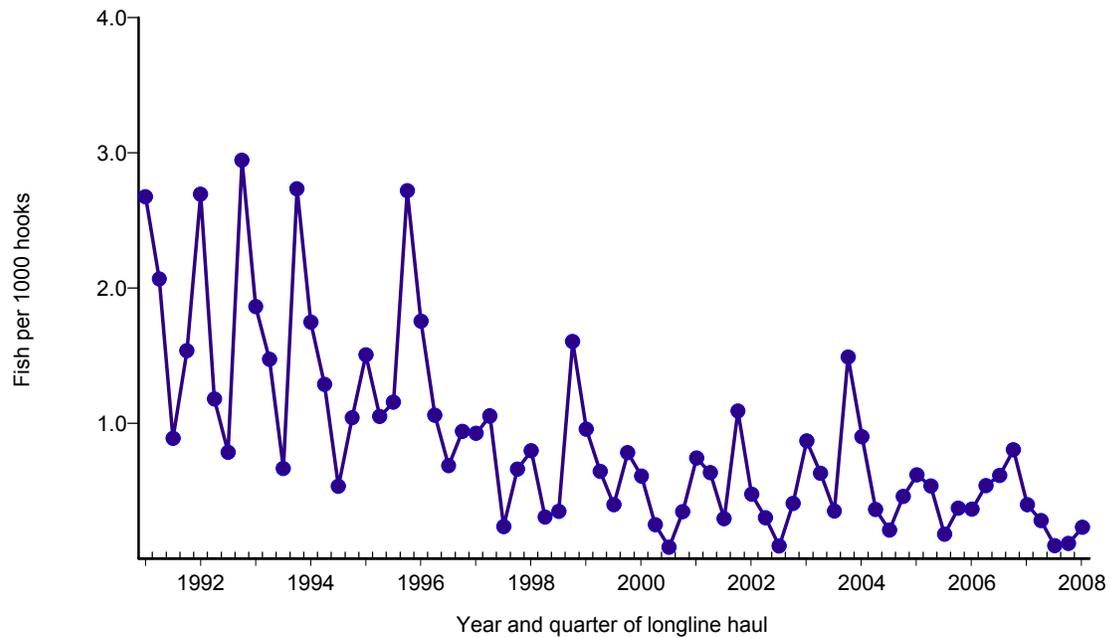


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:39:46AM]

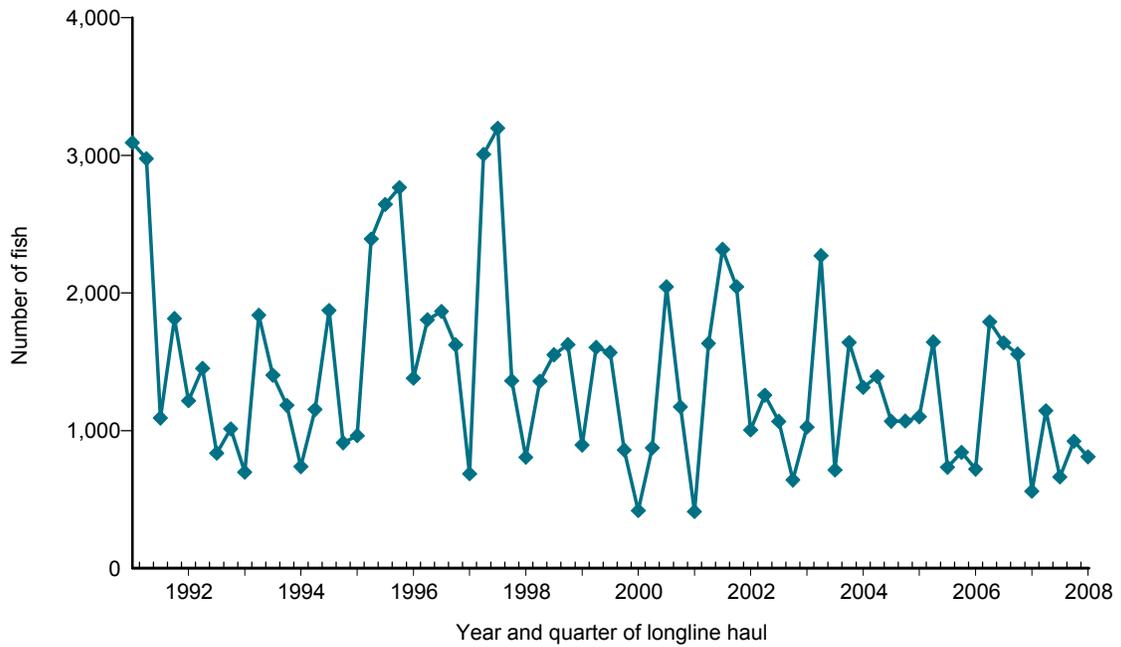


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:40:25AM]

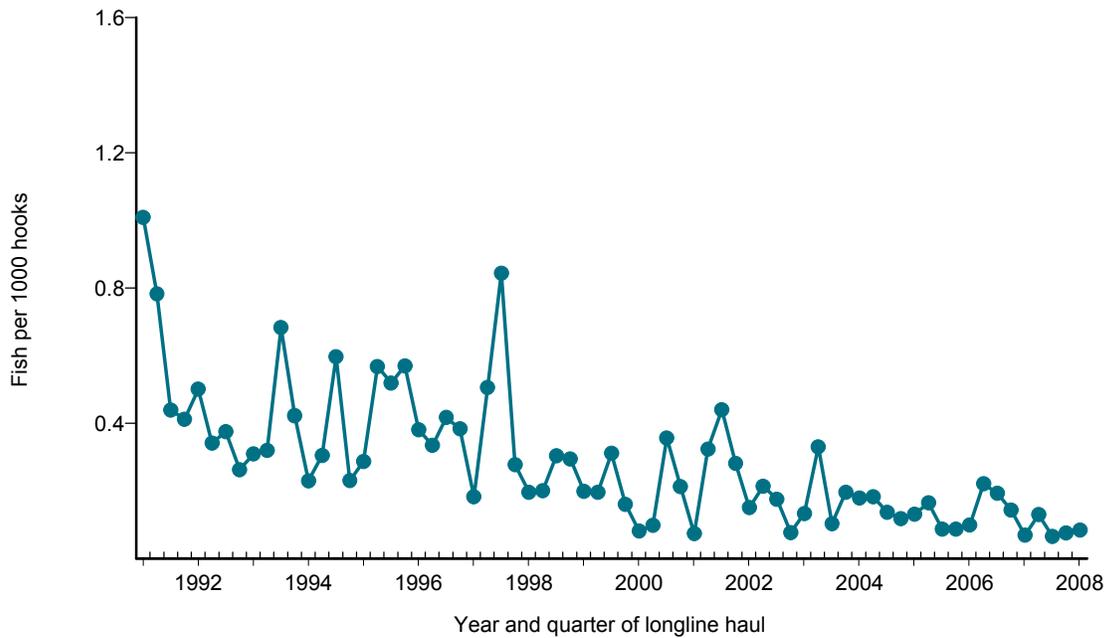


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:40:25AM]

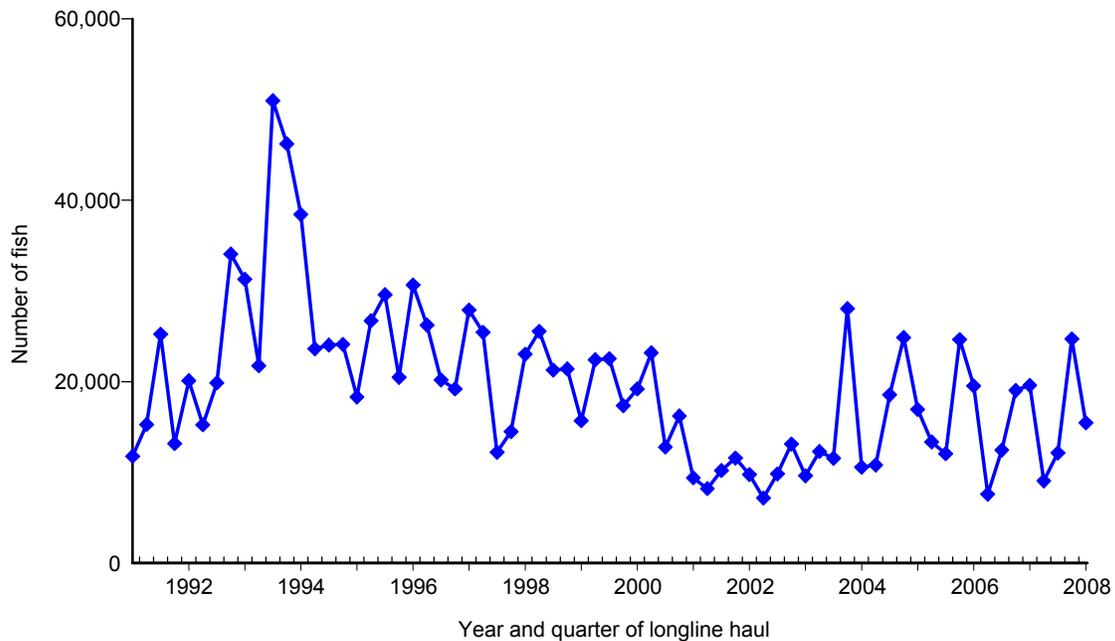


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:41:04AM]

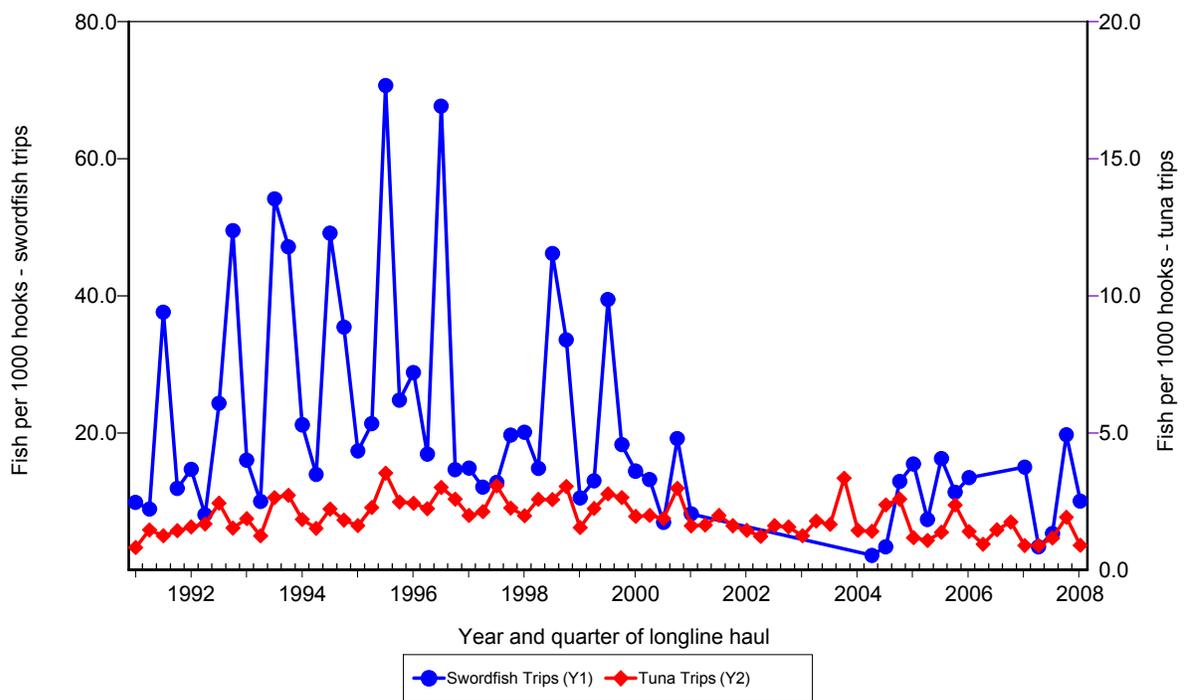


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:41:04AM]

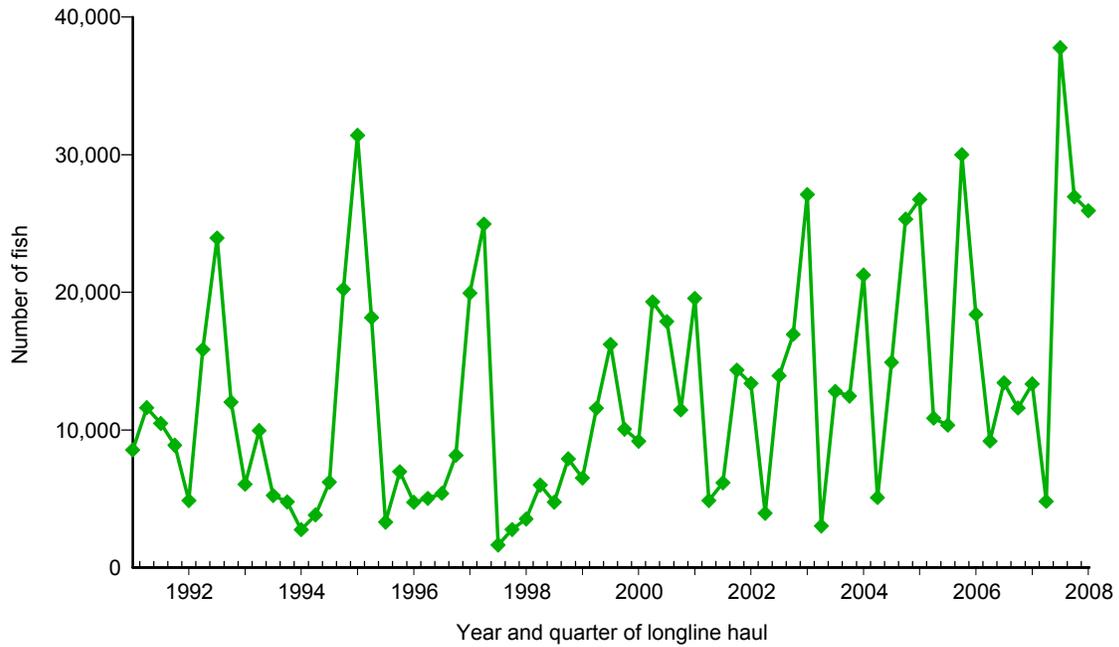


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:41:45AM]

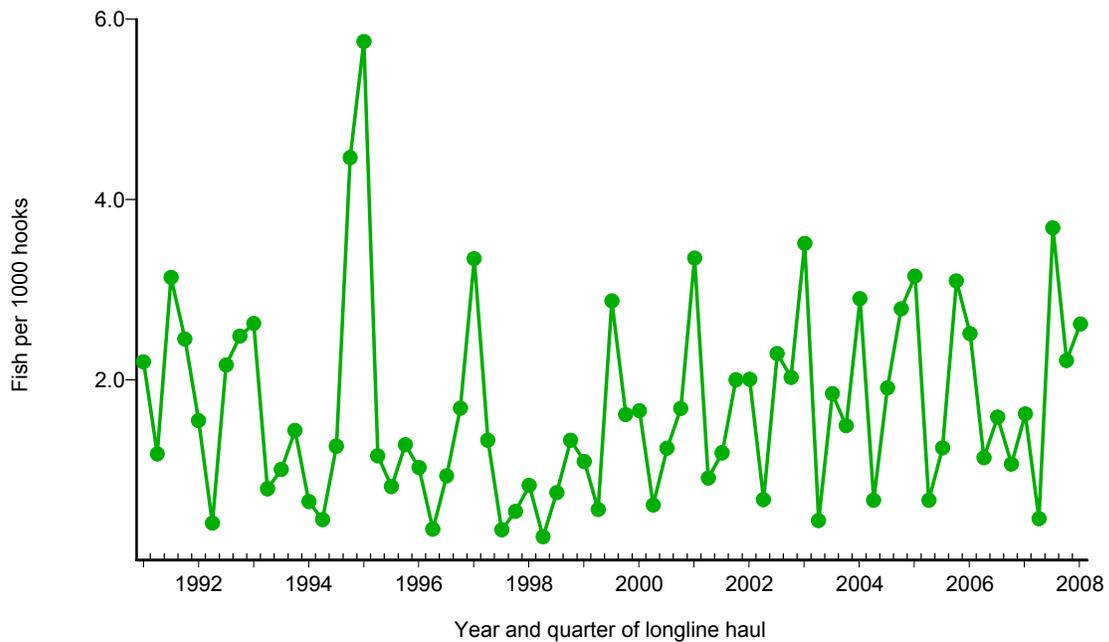


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:41:45AM]

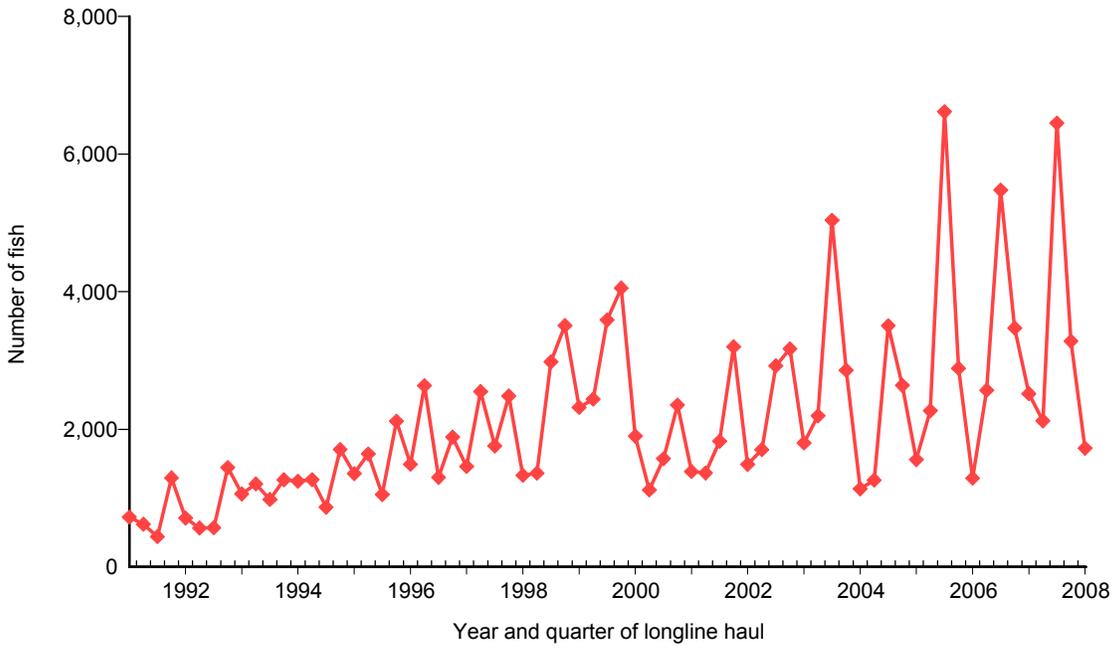


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:42:26AM]

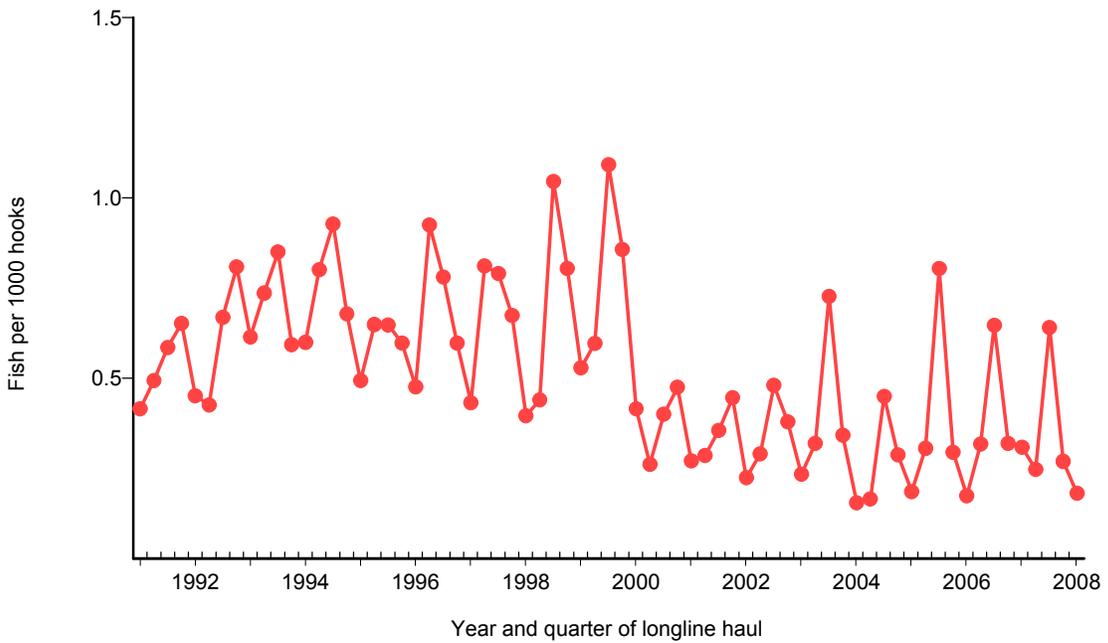


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:42:26AM]

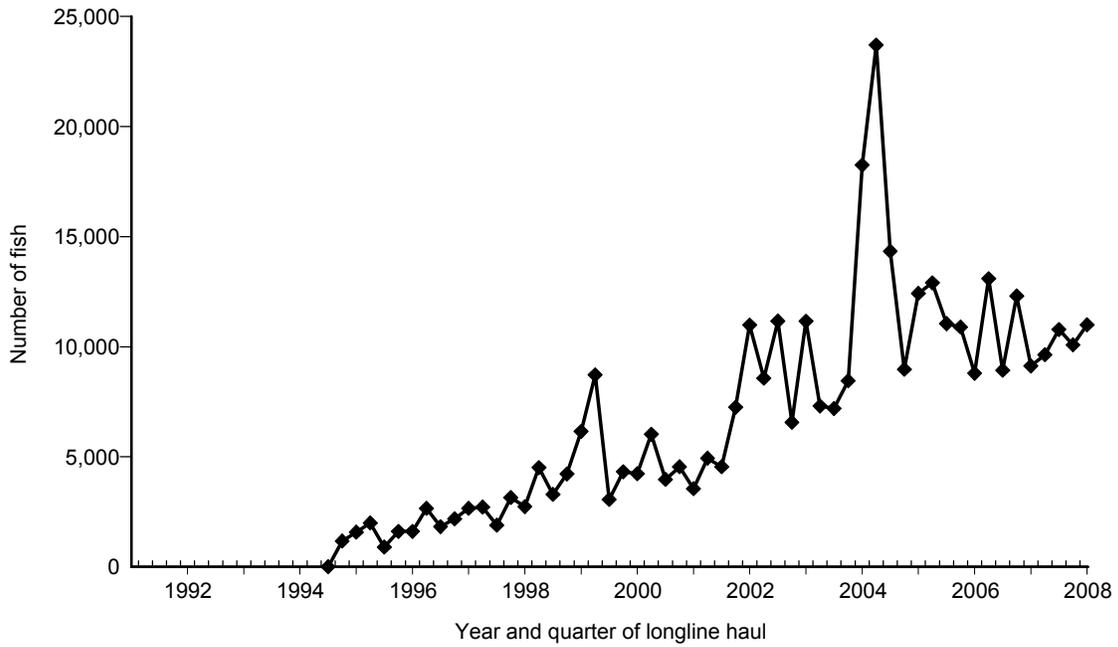


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:43:06AM]

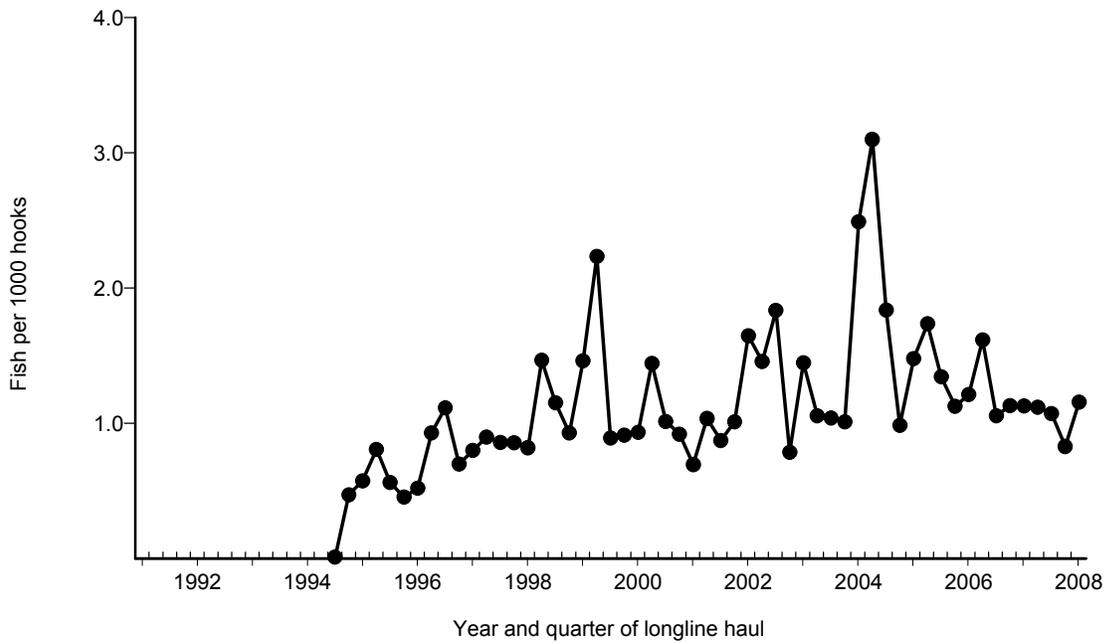


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:43:06AM]

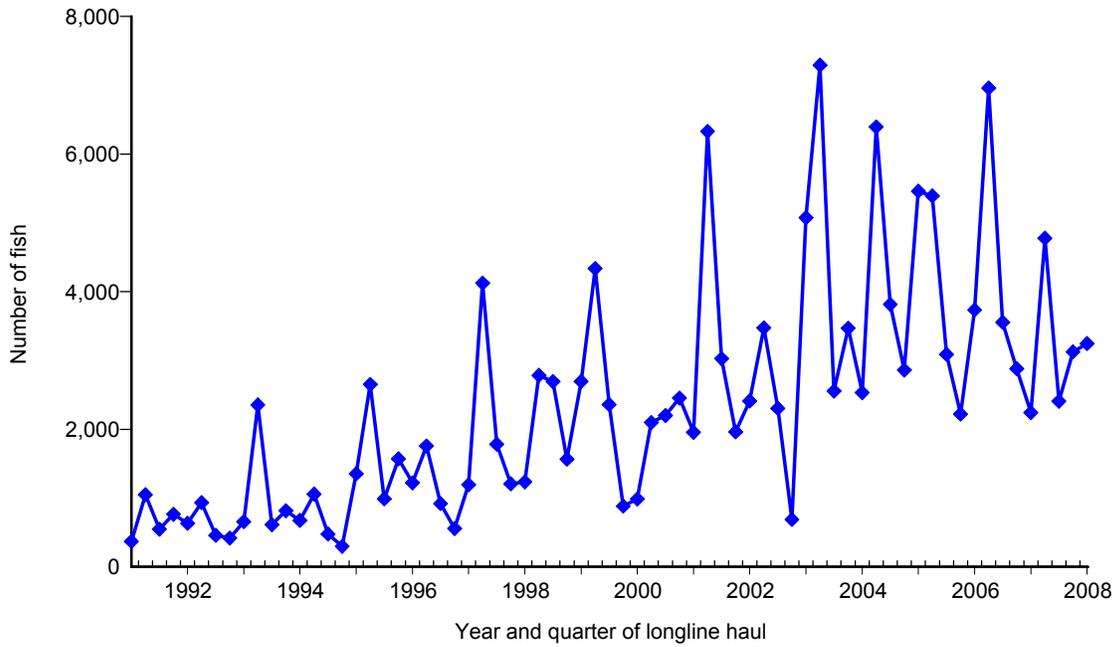


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:43:46AM]

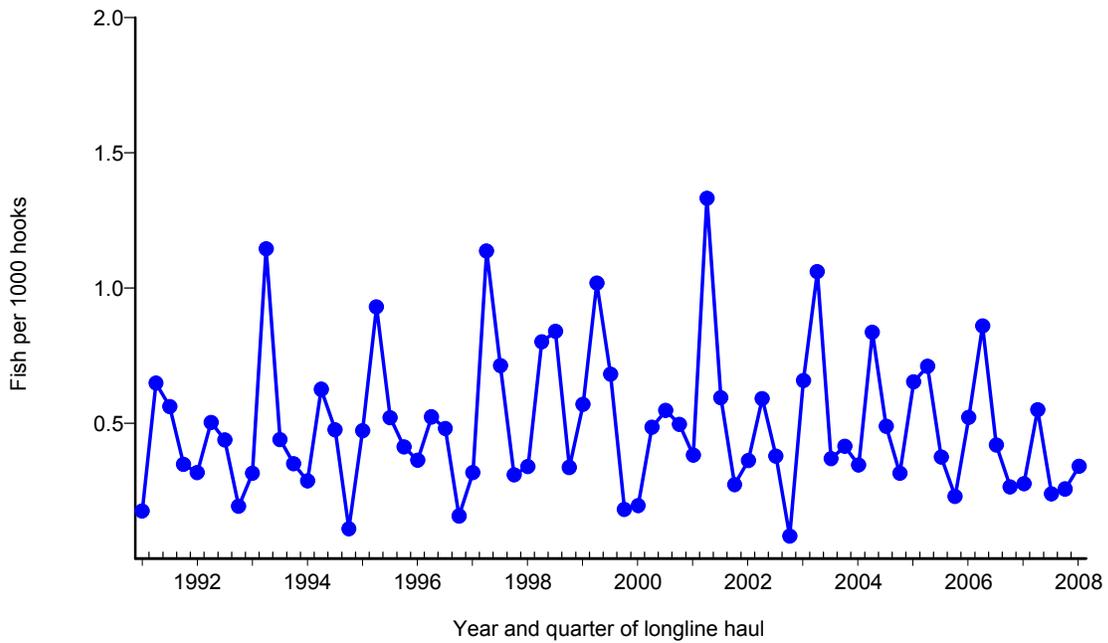


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2008. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:43:46AM]

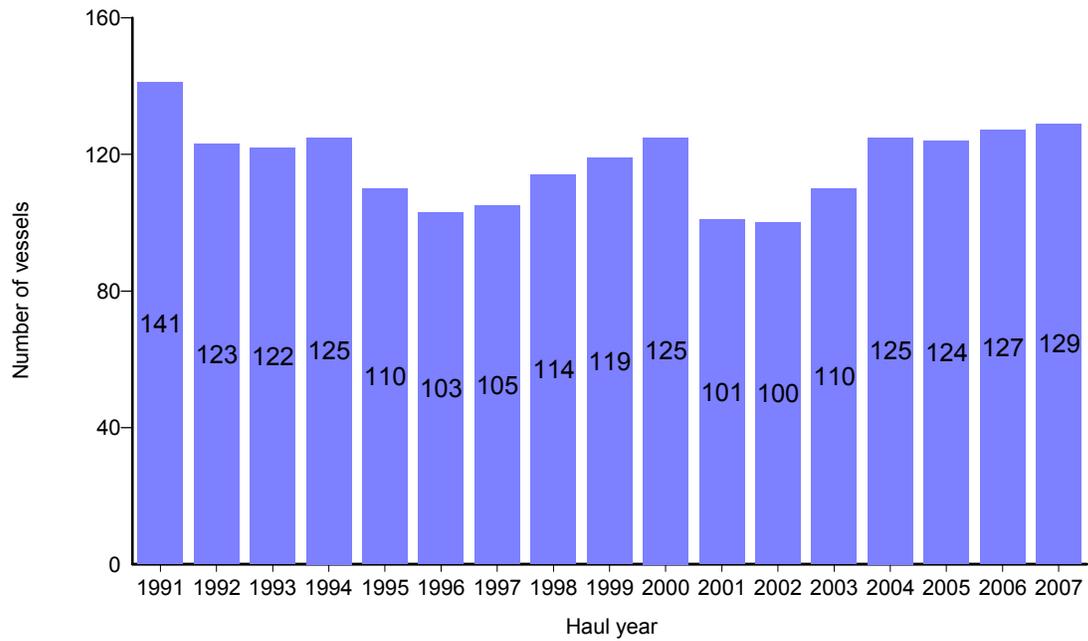


Figure A1. Number of active longline vessels based and landing in Hawaii, by year, 1991-2007. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:36:22AM]

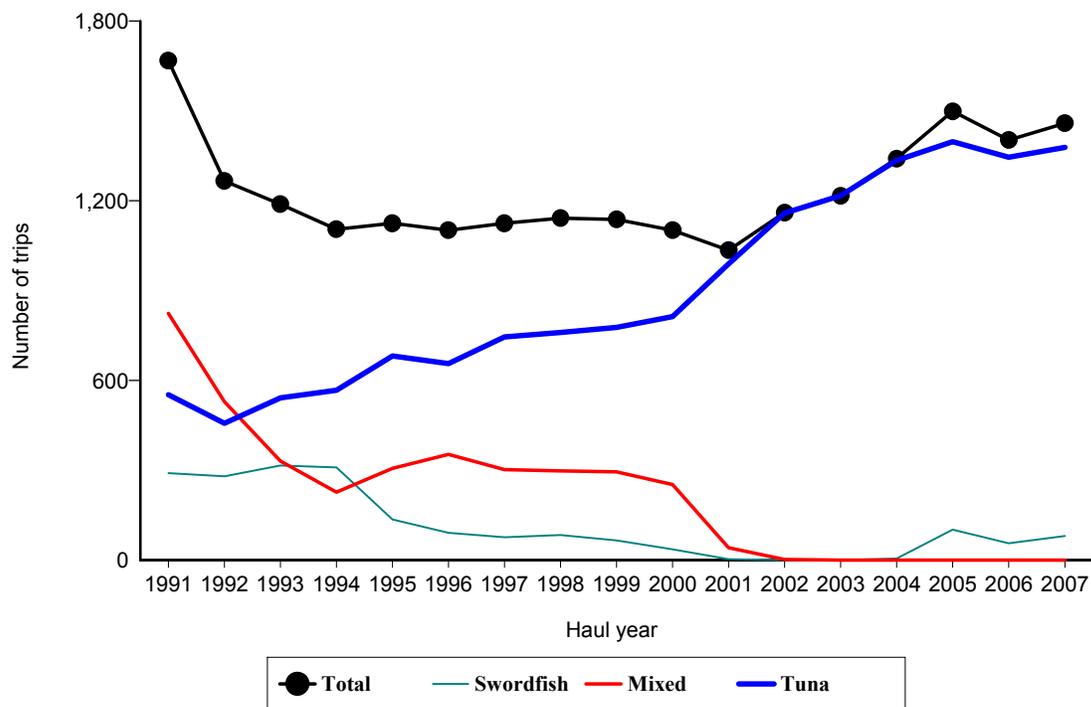


Figure A2. Number of fishing trips by longline vessels based and landing in Hawaii, by year and trip type, 1991-2007. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:36:22AM]

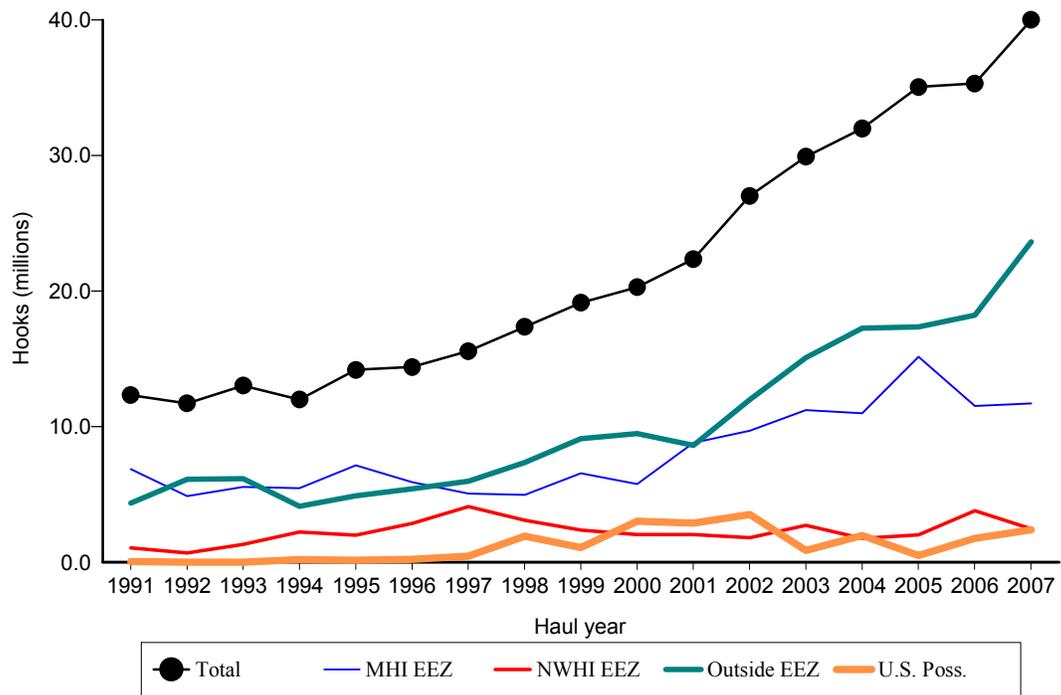


Figure A3. Number of hooks set by longline vessels based and landing in Hawaii, by year and fishing area, 1991-2007. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:44:30AM]

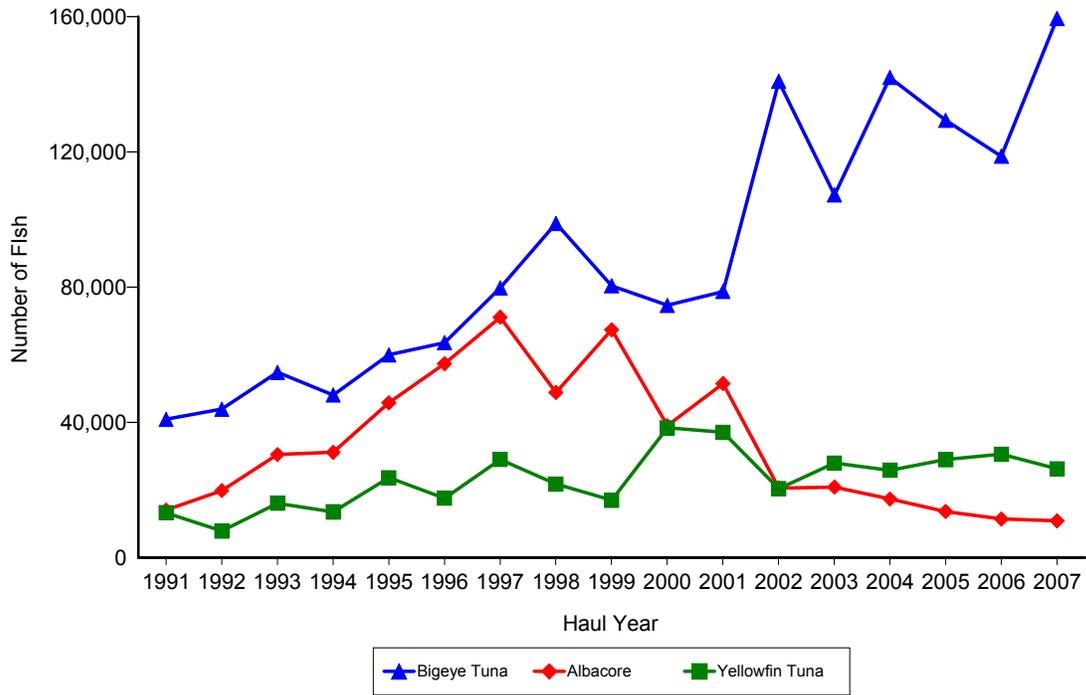


Figure A4. Annual catch of albacore, bigeye tuna, and yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2007. [6/2/2008 10:36:22AM]

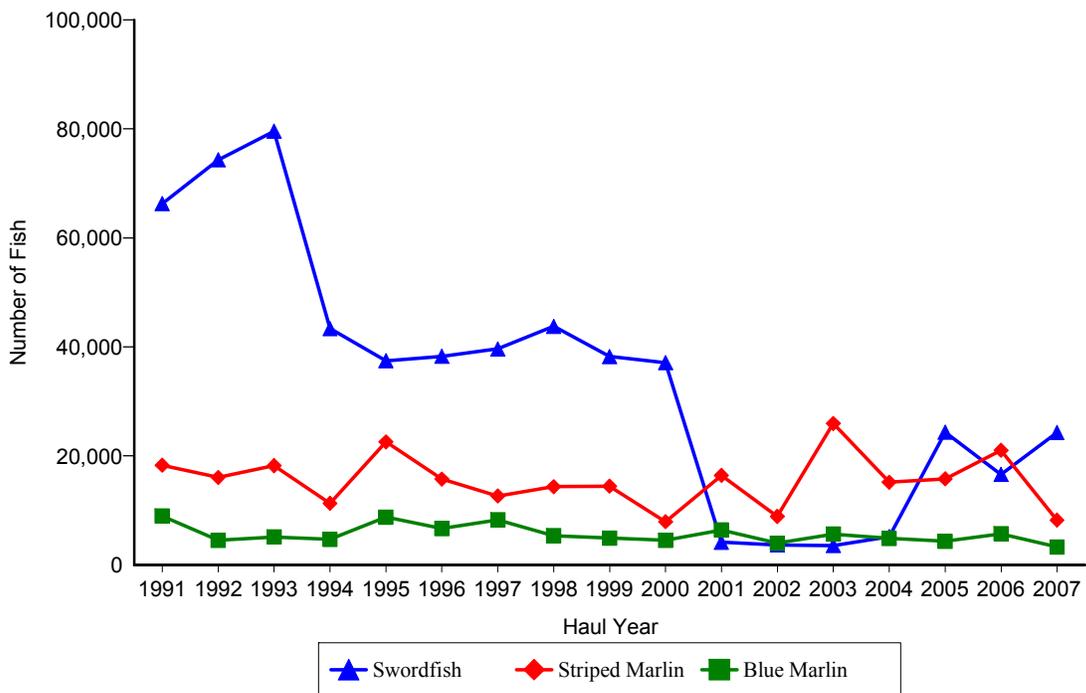


Figure A5. Annual catch of blue marlin, striped marlin, and swordfish by longline vessels based and landing in Hawaii, 1991-2007. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:36:22AM]

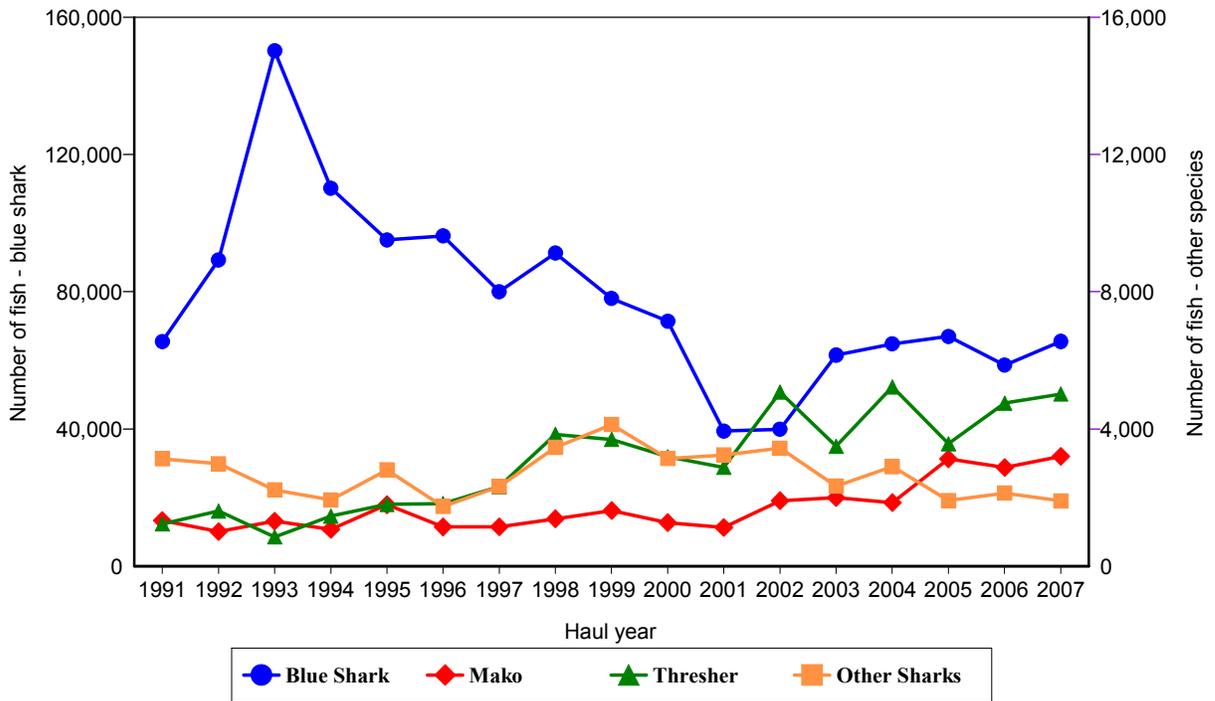


Figure A6. Annual catch of blue shark, mako shark, thresher shark, and other sharks by longline vessels based and landing in Hawaii, 1991-2007. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:36:22AM]

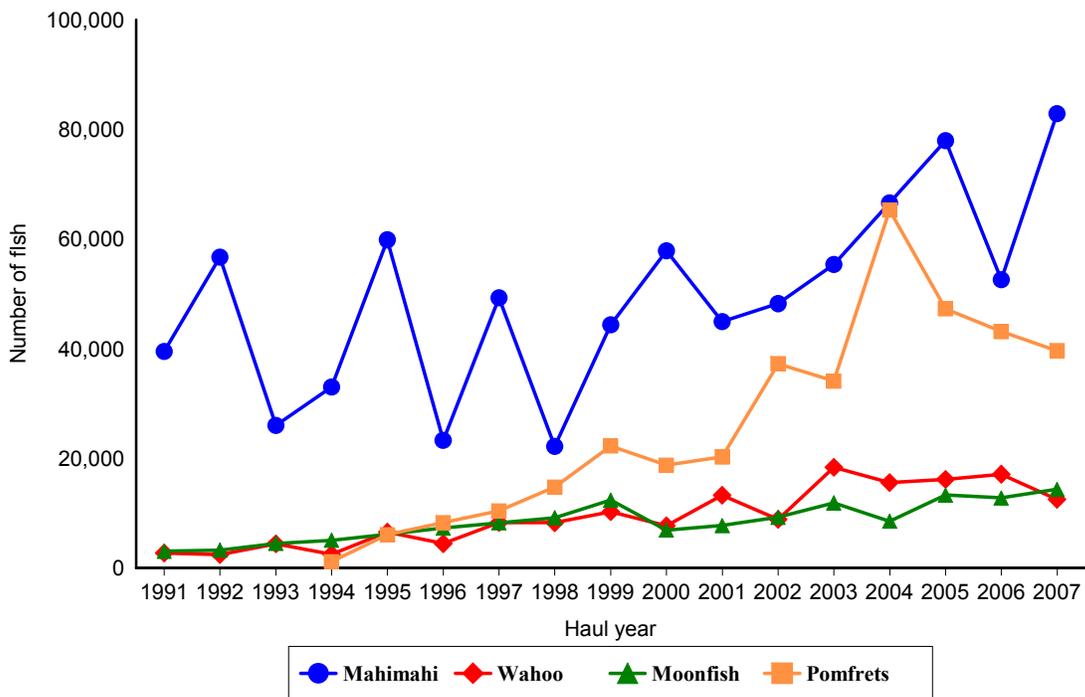


Figure A7. Annual catch of mahimahi, moonfish, pomfret, and wahoo by longline vessels based and landing in Hawaii, 1991-2007. [PIFSC IMS, Longline Logbook Data, 6/2/2008 10:36:22AM]